IV. CULTURAL RESOURCE PROGRAM FOR THE DENALI HIGHWAY LANDS

OHA is responsible for monitoring cultural resources in the state's Denali Highway lands. OHA works with state, Federal and private organizations in efforts to avoid impacts to these resources. OHA works under federal authority (as the SHPO) and state authority (as the office that administers the State Historic Preservation Program) to provide information and guidance on cultural resource issues to DNR, BLM, and other management and regulatory agencies dealing with the Denali Highway lands. OHA's goal is to minimize the effect development and recreation activities might have on the cultural resources.

History of Cultural Resource Management on Denali Highway Lands

In the 1950s the Denali Highway was built between Paxson and Cantwell, opening up the Tangle Lakes area to a variety of users. Archaeological research in the region had begun by the late 1950s, and in 1971 a large section of the region (over 455,000 acres) was designated an archaeological district, and listed in the National Register of Historic Places. This work was led by Frederick Hadleigh West while at the University of Alaska, Alaska Methodist University, the University of Wisconsin and Williams College (West 1967, 1972, 1973a, 1973b, 1974, 1975, 1981, 1984, 1996).

In 1974 the Advisory Council on Historic Preservation (ACHP), a federal oversight agency, was made aware of damage to archaeological sites in the district due to the unrestricted use of OHVs. The Advisory Council requested that BLM, the land management agency in the region, reduce the size of the district and develop measures to protect the cultural resources (Bowers 1989 I-20). This prompted BLM over the next decade to do a series of archaeological surveys to locate archaeological sites in the region, and assess OHV impacts to archaeological sites (Chase 1982, Mobley and Morris 1981, Zinck and Zinck 1976). This changed the focus of archaeological work in the region from strictly academic research to one of management of the cultural resources. An Interim Management Plan was written (Beck 1979) to map out strategies for dealing with conflicts between protection of cultural resources and other uses of the area.

In 1980 BLM entered into an MOA with the Alaska SHPO and the ACHP, under the authorities of 36CFR800. This agreement set standardized archaeological testing and reporting procedures, personnel qualifications, and a two-level determination of archaeological site significance ('major' site/'minor' site) (Bowers 1989 I-22). This MOA is still in effect, though it was amended in 1987 to add archaeological mitigation of the Round Tangle Lake Campground and a section of the Yost Trail to BLM's responsibilities (Bowers 1989: Appendix C). In 1984, BLM published their decision in the Federal Register to formally limit vehicle travel in the TLAD to specific roads and trails, as per the Advisory Council's request ten years earlier (Federal Register 1984, in Bowers 1989: Appendix D). In 1993 revised documentation was submitted to the Keeper of the National Register of Historic Places, reducing the size of the TLAD from 455,034 acres to 226, 660 acres (McCoy and Dodson 1993:4).

The later 1980s and early 1990s saw additional BLM surveys and trail and area clearances, including the Yost Trail, the Round Tangle Lake Campground, and the Landmark Gap (North) Trail (Bowers 1989, Gillispie 1990, 1992). Much of the

subsequent survey has focused on sections of the TLAD away from the Tangle Lakes and Landmark Gap areas that had received little previous survey, as well as developing a database of global positioning system (GPS) data of known sites and trails (Jangala 2001, 2002).

The 2003 conveyance of Denali Block I transferred 235,000 acres north of the Denali Highway from federal to state ownership. This conveyance included the northern section of the 1993 Tangle Lakes Archaeological District. Under state control, this section is now enclosed in an area slightly larger than the 1993 archaeological district boundary called the TLAD/SUA (Figure 2). In 2003 OHA began the evaluation of cultural resources and monitoring of some of the OHV trails in Denali Block I. In 2004 an additional 117, 337 acres of land were partially conveyed from federal to state ownership in the central Denali Highway region (Denali Block II). During the 2004 field season OHA undertook projects that included the monitoring of trails, survey of previously unsurveyed trails, location by GPS and the evaluation, monitoring and mitigation of previously known sites in the Landmark Gap region, and the survey and monitoring of ice patches and other areas with high probability to contain cultural sites. In 2005 OHA continued its trail and ice patch monitoring, as well as working with DNR/DMLW on the evaluation and survey of the Glacier Gap Trail alternatives.

Human Occupation of the Tangle Lakes Region

Researchers from Alaska Methodist University, the University of Alaska, and other institutions in the 1950s, 1960s and 1970s discovered over 10,000 years of human occupation in the Tangle Lakes region. Through this time people survived by hunting animals and harvesting plants in the region. Following are the names, time periods, and a brief description of the human groups that occupied the region.

Denali Complex (Beringian/ American Paleoarctic Tradition)	10,000+ to 5,000 years ago
Northern Archaic Tradition	5,000 to 3,500 years ago
Late Denali Complex	3,500 to 1,500 years ago
Athapaskan Tradition/ Lake Prehistoric Period	1,500 to 100 years ago
Historic Period	100 years ago to present

Table 1. Cultural groups in the Tangle Lakes Region, Denali Highway.

The region was first occupied by a group whose technological tool kit has been called the Denali Complex (~10,000-5,000 years ago). These people are believed to have hunted caribou in the region, using antler spear points inset with razor-blade like stone "microblades" struck off of small microblade cores. They were followed by people of the Northern Archaic Tradition (~5,000-3,500 years ago) who, like their predecessors, hunted caribou with the atlatl and dart and flaked stone tools using material found in the Landmark Gap region. The next group in the region (Late Denali Complex: ~3500-1500 years ago) again made microblade tools. Use of the bow and arrow and native copper began in the Late Prehistoric Period (1,500-100 years ago) in the Copper River basin, along with the intensive use of Copper River salmon. Direct connection is seen between these latter people and the Ahtna Athapaskans living in the region today. Written

documentation of the area began when the Castner and Glenn parties from the U.S. Army traveled through in 1898 (Castner 1984).

Cultural Site Types and Locations

There are 152 identified cultural sites in Denali Block I listed in the Alaska Heritage Resources Survey (AHRS) maintained by OHA. There are 17 cultural sites in Denali Block II listed in the AHRS. These are the prehistoric and historic archaeological sites identified to date in these parcels. Archaeologists identified the sites by visually locating their remains on the landscape, and by sub-surface testing.

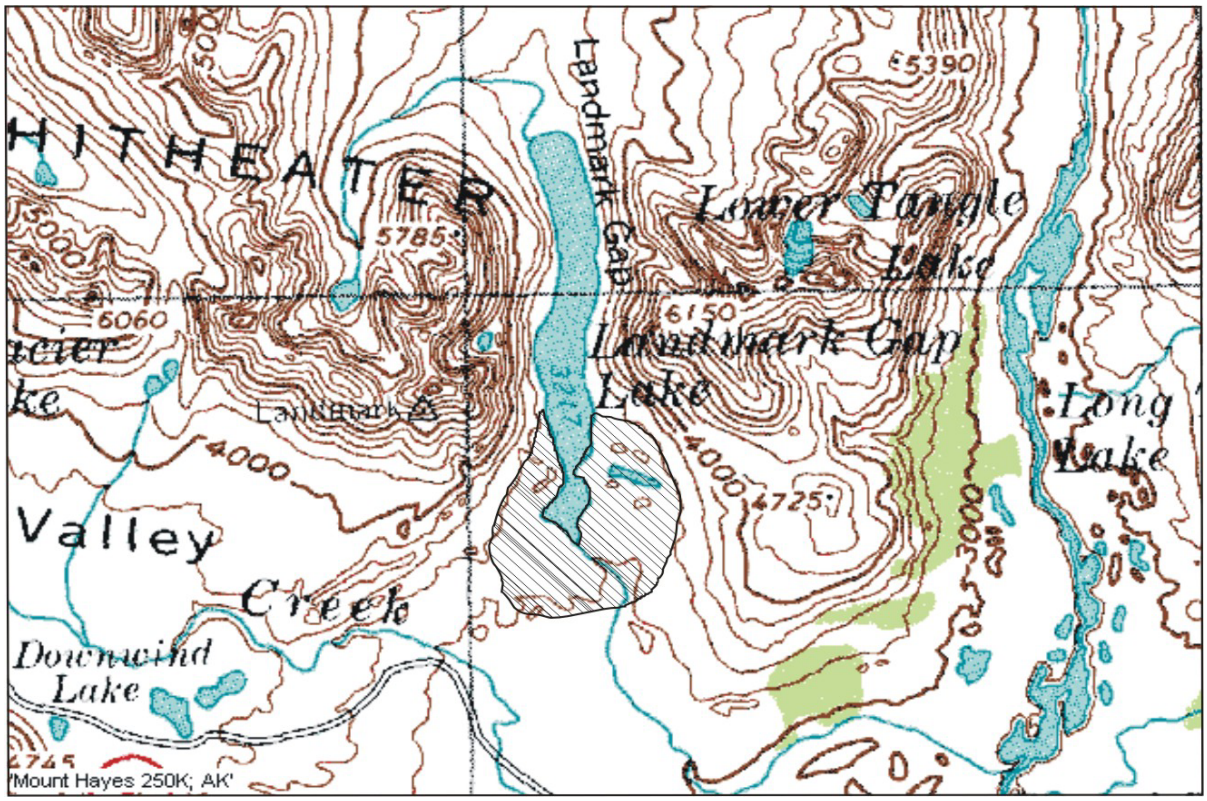

Figure 5. Landmark Gap region of Denali Block I. Hatched area has highest concentration of known archaeological sites (>90) in the Denali Blocks.

Historic sites in the Denali Blocks include cabins, equipment, and landscape modification from the early part of the last century. Prehistoric sites are more difficult to locate. They generally contain only the stone tools used by past peoples, as the organic tools (wooden spears, bark bowls, skin clothing, bone and antler tools) have decayed away. Prehistoric sites in this region are generally only visible on the surface when some action (OHV use, wind or water erosion) has disturbed and removed the soil covering the artifacts.

Prehistoric Site Locations

Prehistoric site locations in central Alaska are those places where hunting and gathering populations used the land to camp or harvest resources, and where they left evidence of their presence. Below are landforms that current archaeological and ethnographic information suggest have a high probability to contain cultural sites.

Overlook Sites

The landform in central Alaska most likely to contain an archaeological site is the overlook. An overlook can be a point of land that projects into a valley, a high point on a ridge, or merely the highest point in a region. These landforms were generally used as outlooks for game, though some served as campsites. Hunters would sit on these highpoints, refurbishing their hunting equipment and making stone tools from material brought to the site.

Lake and Stream related Sites

Prehistoric people commonly used the lake shores, outlets, and stream banks of the region. These sites could be short term hunting and fishing sites or longer term living sites, and include fire hearths and tools used for a variety of activities. Locations like stream mouths and lake narrows or outlets are likely places for fishing and related fish processing and camping to have taken place. Large lakes also tend to channel game (either around the lake or across at narrows) and give human hunters a location (in the water) where large game is slower and easier to kill.

Mountain Passes

Archaeological sites are sometimes found in or near mountain passes because the passes are natural channels for the movement of both people and animals. Many passes in the area have traditional Athapaskan trails. Passes also were ambush locations for humans hunting caribou and moose.

Alpine Ice Patches

In 1997, northern researchers discovered ice patches occasionally preserve cultural materials from past human hunters (Dixon et al., 2005; Hare et al., 2004, Kuzyk et. al., 1999). Prehistoric hunters found that caribou commonly spent the hot part of summers on alpine ice patches in the high country. They hunted the caribou there, and occasionally lost their tools on these ice patches. Because of recent warmer temperatures across the Arctic, ice patches in Alaska and the Yukon are melting, exposing arrows, darts (atlatl-thrown spears) and other items. These ice patches (or melted ice patches, that now only have a layer of caribou dung remaining) can produce important organic cultural materials not preserved in other archaeological sites.

Lithic Procurement Sites

An important type of archaeological site in Denali Block I is the lithic source. Lithic sources are locations where people would get stone that they would flake or grind into tools. Landmark Gap has one known bedrock source of flakeable stone, and recent geological data suggests that there are others in the region.

Multiple-Resource Spike Camps

Multiple-resource spike camps are locations in a region that were centrally located to use multiple resources found in the region, but were occupied for a relatively short period of time. These are known from the ethnographic literature, and are common of Athapaskan camps in high country. While usually near a lake or stream, they could be located on any piece of dry ground with water in the area. Developing a model showing likely locations for multiple-resource spike camps requires creating map layers showing past biological resources, and finding camping locations near clumped resources that allowed predictable and reliable harvesting.

History of Cultural Resource Monitoring and Survey on Denali Highway Lands

Archaeological survey on the Denali Highway in the 1950s and 1960s focused on locations near the highway and the Tangle Lakes corridor. Frederick Hadleigh West, the main academic researcher in the 1960s and 1970s, focused on the areas around the upper and lower Tangle Lakes and Landmark Gap Lake.

In the mid-1970s, the focus changed from archaeological research to cultural resources management. BLM and other agencies began surveying existing OHV trails, campgrounds and road right-of-ways, attempting to understand and document the resources and find ways to minimize impact from increased human use of the region. During this time archaeological surveys were conducted on the Landmark Gap, Glacier Gap, Maclaren, and Seven Mile Lake trails (Zinck and Zinck 1976). Multiple sites were found on these trails, with one important site impacted badly enough to force closing the north half of the Landmark Gap (North) trail (Mobley and Morris 1981). In 1977 an historic resource study was done of the Valdez Creek Mining District, included an overview of the entire Denali Highway (Dessauer and Harvey 1980). In 1979 State of Alaska Division of Parks archaeologists surveyed along the highway (McKay 1981). Six sites were discovered in the TLAD by this survey, one of which produced the only known copper artifact from the area (Bowers 1989: I-21).

BLM's focus on cultural resource management continued through the 1980s and 1990s, with survey and monitoring of trails and the mitigation of impacts on cultural sites. BLM contracted with GDM Inc. in 1989 to conduct archaeological testing and clearance of the Round Tangle Lakes Campground, and again in 1991 to conduct data recovery and mitigation of the Landmark Gap Trail Site (XMH-289), resulting in the reopening of the north half of the trail from the site to the lake for OHV use. The late 1980s also included a survey of the section of the historic Yost Trail that fell inside the 1971 TLAD boundary (Bowers 1989). BLM increased its trail monitoring in the late 1990s and early 2000s, as well as surveying new trails (Jangala 2001, 2002).

This monitoring, mitigation and data gathering to better understand and protect the cultural resources has been continued by OHA. During 2003 OHA's work included monitoring and generating GPS maps for the four OHV trails in the TLAD/SUA (Landmark Gap [North] Trail, Glacier Gap Trail, Maclaren Summit Trail, and a section of Seven Mile Lake Trail). The work also included monitoring of ice patches in the region for cultural materials (see Alpine Ice Patches, page 15). Substantial organic cultural materials were found (wooden arrows, antler points, and birch bark). The OHA 2004 field season included monitoring of the Denali Blocks' trails, including the historic

Yost Trail, and additional mitigation of the Landmark Gap Trail Site. Other activities included relocating and GPS recording of 23 archaeological sites southwest of Landmark Gap Lake, and discovering 10 new sites in the area. Monitoring of ice patches in the region recovered three lithic projectile points, an arrow or dart shaft fragment, and a probable atlatl. Similar monitoring of trails and ice patches was done in 2005.

Almost all of the archaeological surveys done in the Tangle Lakes region in the last 40 years were done near the Tangle Lakes, the Denali Highway, Landmark Gap Lake, or one of the OHV trails in the region. This means that few areas away from these features have been surveyed. Less than 10 % of Denali Block I has been archaeologically surveyed at a reconnaissance level. Less than 1% of the Denali Block II parcels have seen reconnaissance level survey.

Most of the remaining BLM acreage along the Denali Highway has been selected by the State of Alaska. Transfer to the State is scheduled for completion by 2009. Thus within five years many hundreds of thousands of acres of additional land in this region is slated to come under state control, and almost none of it has been archaeologically surveyed.

The Importance of Updated Survey Strategies and Landscape Histories

Researchers are constantly learning more about how people used past landscapes. Archaeological survey in the Denali Highway region requires a strategy delineating areas that have a high probability for finding sites and areas that do not. Bowers (1989:II-15) attempted to do this by created a map that blocked out higher elevation areas (above 4000 feet) in the TLAD as not needing to be surveyed. This was an early attempt to make a determination of at least where survey wasn't necessary. More recent archaeological and ethnographic information has changed our awareness of how prehistoric peoples used higher elevations. In the last decade archaeologists have learned that many ice patches in Alaska and the Yukon contain well preserved organic hunting tools. Using this information, OHA archaeologists found five ice patch archaeological sites in areas above 4000 feet during monitoring activities in 2003 and 2004.

Archaeologists surveying in the Denali Highway region should use current archaeological and ethnographic data and a well developed Holocene landscape history. The landscape has in some cases changed considerably in the last 10,000 years, with the draining of lakes and the changing courses of streams. A large "Greater Tangle Lake" (also called "Ancient Tangle Lake": Campbell 1993), existed in the southern Tangle Lakes region in the early Holocene and was used by Denali Complex peoples. This lake partially drained sometime after 8,000 years ago, leaving a fossil shoreline and bathtub ring of archaeological sites approximately 50 feet above the current upper Tangle Lakes. This shows us that we cannot rely only on modern landforms to represent how things were in the past, and illustrates the importance of developing a landscape history of the region before prioritizing areas for their importance in past human use. Any archaeological survey strategy must be reviewed and updated periodically and incorporate new archaeological, ethnographic and landscape history information.